

A Note on the Occurrence of the Genus *Hoplodactylus* Fitzinger in New Zealand.

By N. G. STEPHENSON, M.Sc., Auckland University College.

The genus *Hoplodactylus* Fitzinger, Syst. Rept., 1843, pp. 19 and 100 (type *Platydactylus duvaucelii*), is one of the two genera of geckos endemic to New Zealand. G. A. Boulenger (Cat. Brit. Mus., Vol. I, p. 171, 1885) accords it a comparatively wide range through South Pacific islands and Southern India. It has also been listed by Lucas and Frost in the "Animals of Australia," and the old collections of the British Museum and Paris contain specimens of *H. pacificus* from Tasmania and the Marquesas Islands. There is now no doubt that these localities are erroneous. Careful investigation has made it quite clear that the genus does not occur in Australia and there has been no further record of its occurrence in the Pacific Islands.

Boulenger (1885) recognised five species, namely, *Hoplodactylus maculatus*, *H. pacificus* and *H. granulatus* from New Zealand, *H. duvaucelii* from Bengal and *H. annamallensis* from Southern India.

For many years the view has been held in New Zealand that *H. duvaucelii*, described by Boulenger as having come from Bengal, was really a New Zealand form. This view was substantiated by the fact that there was in New Zealand one or more spirit specimens, of doubtful origin, which conformed with the descriptions of *H. duvaucelii*. It was not, however, until January, 1939, that any direct proof of the occurrence of *Hoplodactylus duvaucelii*, in a definite New Zealand locality, was obtained. During this month two specimens were collected from one of the Hen and Chickens Islands, off the east coast, north of Auckland. Both these specimens were sent directly to the British Museum for examination and classification and at least one specimen is known to have survived the journey. In November, 1939, a third specimen was collected from the same island. In February, 1940, a specimen of *H. duvaucelii* was collected from the Chickens Islands by Mr. C. A. Fleming while in November of the same year *H. duvaucelii* was collected from Aorangi, Poor Knights Islands.

It was pointed out by Malcolm A. Smith (Records of the Indian Museum, Vol. XXXV, 1933, p. 9-19) that *H. duvaucelii* had never since been found in any part of India. Smith compared specimens of *H. pacificus* with the types and only known specimens of *H. duvaucelii* and observed that except for a difference in size (the snout to vent measurements being 70 mm. in the former and 120 mm. in the latter, for the largest specimens in the British Museum) and the number of sub-digital lamellae, the two were identical. He concluded that *H. duvaucelii* "was very closely allied to, if not a race of, one of the New Zealand forms,"

and suggested that some error must have occurred in the labelling of the original specimens, a reasonable supposition in view of the fact that there is nothing in common between the faunas of New Zealand and India. Smith was able to confirm his view concerning the occurrence of *H. duvaucelii* when, a little later, a living specimen of *H. duvaucelii*, captured on one of the islands of the Hen and Chickens group, off the east coast of the North Island of New Zealand, arrived in London. (Records, Indian Museum, Vol. XXXV, p. 13.)

SYNOPSIS OF NEW ZEALAND SPECIES (Malcolm Smith).

A. 10 to 14 lamellae (the posterior usually divided) beneath the free terminal phalanges of the outer four digits.

10 to 12 curved lamellae beneath the dilated portion of the digit *H. pacificus*.

16 to 18 curved lamellae beneath the dilated portion of the digit *H. duvaucelii*.

Lamellae beneath the dilated portion of the digit straight, transverse *H. granulatus*.

B. 4 to 6 lamellae beneath the terminal phalanges of the outer four digits, which are not more than half the length of the dilated portion.

Lamellae beneath the dilated portion of the digit curved *H. maculatus*.

H. annamallensis, according to Smith, can be distinguished from the true *Hoplodactylus* (now to be defined as a genus of geckos endemic to New Zealand) "by several small but distinct characters and should be placed in a separate genus." He proposes *Dravidogecko*, gen. nov., monotype *Gecko annamallensis* Günther, and says, "the similarity which the two genera bear one another in external characters is due, no doubt, to parallel evolution and not to phylogenetic relationship." Smith further states that the following characters serve the two:

Free terminal phalanges rising from the end of the expanded portion of the digit; inner digit with a minute claw, or the claw concealed; male pores in multiple series *Hoplodactylus*.

Free terminal phalanges rising from within the expanded portion of the digit; inner digit with distinct claw; male pores in single series *Dravidogecko*.

Specimens of *Hoplodactylus* collected in April and May, 1946, by a Museum collecting party from Auckland which visited the Three Kings Islands have added fresh evidence on the systematic position of *H. duvaucelii*. Four specimens, collected from the Great Island, Three Kings, have shown that size and lamellar number do not sharply define

H. pacificus and *H. duvaucelii* from one another and that both types may possibly occur on one island. The evidence now available confirms the possibility, suggested by Malcolm Smith, that *H. duvaucelii*, as a species, is not distinct from *H. pacificus*.

SPECIMEN A (Great Island, Three Kings, 1946)	
Snout to vent	= 85 mm.
Number of lamellae beneath the dilated portion of fourth toe (posterior usually divided)	= 15
SPECIMEN B (Great Island, Three Kings, 1946).	
Snout to vent	= 75 mm.
Number of lamellae beneath the dilated portion of fourth toe (posterior usually divided)	= 16 (left)
	= 15 (right)
SPECIMEN C (young specimen) (Great Island, Three Kings, 1946).	
Snout to vent	= 39 mm.
Number of lamellae beneath the dilated portion of fourth toe (posterior usually divided)	= 16
SPECIMEN D (Great Island, Three Kings, 1946).	
Snout to vent	= 89 mm.
Number of lamellae beneath the dilated portion of fourth toe (posterior usually divided)	= 15
SPECIMEN E (young specimen) (Great Island, Three Kings, 1946).	
Snout to vent	= 38 mm.
Number of lamellae beneath the dilated portion of fourth toe (posterior usually divided)	= 14 (left)
	= 15 (right)

It is evident from the measurements of the above four specimens that the key to the New Zealand species, suggested by Smith as a replacement for the original key of Boulenger, also breaks down as far as *H. pacificus* and *H. duvaucelii* are concerned. In conclusion, one might state that further field observations and measurements of the geckos on islands north of Auckland could be expected to provide a series of intermediate forms and furnish some of the data which will be required before a more complete revision of the New Zealand species of *Hoplodactylus* can be attempted.

REFERENCES.

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Photograph of *Hoplodactylus* (*duvaucelii* type), showing 17 lamellae beneath the dilated portion of the fourth toe, the anterior chevron-shaped, the posterior divided, and smaller lamellae beneath the free terminal portion of the digits.

Photo. L. H. Millener, University College, Auckland.